## CLAIMS

1. A method for defibrillating a heart of a person, comprising:
applying electrical pulses to the heart at a rate greater than about 10 Hz; and
terminating the electrical pulses, so that the heart beats without fibrillation.

2. A method according to claim 1, wherein applying the pulses comprises applying the pulses for at least about 100 milliseconds.

3. A method according to claim 1, wherein applying the pulses comprises applying to the heart a total amount of electrical energy which is less than about 1 joule.

4. A method according to claim 1, wherein applying the pulses comprises applying a pulse having an amplitude less than about 50 mA.

5. A method according to claim 1, and comprising sensing motion of the heart, wherein applying the pulses comprises modifying a characteristic of at least some of the pulses applied to the heart responsive to the sensed motion.

6. A method according to claim 1, and comprising applying a fencing signal to the heart to inhibit propagation of an activation wave therein while applying the electrical pulses.

7. A method according to claim 1, wherein applying the pulses comprises applying the pulses in two or more bursts of pulses.

8. A method according to claim 1, and comprising pacing the heart at approximately 1 Hz while applying the electrical pulses at the rate greater than about 10 Hz.

9. A method according to any one of claims 1-8, wherein applying the pulses comprises applying electrical energy to the heart at a peak rate which is less than about 100 W.

10. A method according to claim 9, wherein applying the pulses comprises applying electrical energy to the heart at a peak rate which is less than about 10 W.

11. A method according to any one of claims 1-8, wherein applying the pulses comprises applying respective signals at a plurality of sites on the heart.

12. A method according to claim 11, wherein applying the signals comprises applying a first waveform at a first one of the sites and applying a second waveform, which differs from the first waveform, at a second one of the sites.

13. A method according to any one of claims 1-8, wherein applying the pulses comprises applying the pulses so as to induce depolarization in at least a region of the heart.

14. A method according to claim 13, wherein applying the pulses comprises applying the pulses so as to induce a depolarization of substantially all excitable contractile tissue of the heart.

15. A method according to claim 13, wherein applying the pulses comprises applying the pulses so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

16. A method for defibrillating a heart of a person, comprising:
applying an electrical signal to the heart for at least 100 milliseconds; and
terminating the electrical signal, so that the heart beats without fibrillation.

17. A method according to claim 16, wherein applying the signal comprises applying to the heart a total amount of electrical energy which is less than about 1 joule.

18. A method according to claim 16, wherein applying the signal comprises applying a signal having an amplitude less than about 50 mA.

19. A method according to claim 16, and comprising sensing motion of the heart, wherein applying the signal comprises modifying a characteristic of the signal applied to the heart responsive to the sensed motion.

20. A method according to claim 16, and comprising applying a fencing signal to the heart to inhibit propagation of an activation wave therein while applying the electrical signal.

21. A method according to claim 16, wherein applying the signal comprises applying the signal in two or more bursts of signal application.

22. A method according to claim 16, and comprising pacing the heart at approximately 1 Hz while applying the electrical signal.

23. A method according to any one of claims 16-22, wherein applying the signal comprises applying electrical energy to the heart at a peak rate which is less than about 100 W.

24. A method according to claim 23, wherein applying the signal comprises applying electrical energy to the heart at a peak rate which is less than about 10 W.

25. A method according to any one of claims 16-22, wherein applying the signal comprises applying respective signals at a plurality of sites on the heart.

26. A method according to claim 25, wherein applying the signals comprises applying a first waveform at a first one of the sites and applying a second waveform, which differs from the first waveform, at a second one of the sites.

27. A method according to any one of claims 16-22, wherein applying the signal comprises applying the signal so as to induce depolarization in at least a region of the heart.

28. A method according to claim 27, wherein applying the signal comprises applying the signal so as to induce a depolarization of substantially all excitable contractile tissue of the heart.

29. A method according to claim 27, wherein applying the signal comprises applying the signal so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

30. A method for defibrillating a heart of a person, comprising:

applying an electrical signal to the heart with a total energy of no more than about 1 joule; and

terminating the electrical signal, so that the heart beats without fibrillation.

31. A method according to claim 30, wherein applying the signal comprises applying a signal having an amplitude less than about 50 mA.

32. A method according to claim 30, and comprising sensing motion of the heart, wherein applying the signal comprises modifying a characteristic of the signal responsive to the sensed motion.

33. A method according to claim 30, and comprising applying a fencing signal to the heart to inhibit propagation of an activation wave therein while applying the electrical signal.

34. A method according to claim 30, wherein applying the signal comprises applying the signal in two or more bursts of signal application.

35. A method according to claim 30, and comprising pacing the heart at approximately 1 Hz while applying the electrical signal.

36. A method according to any one of claims 30-35, wherein applying the signal comprises applying electrical energy to the heart at a peak rate which is less than about 100 W.

37. A method according to claim 36, wherein applying the signal comprises applying electrical energy to the heart at a peak rate which is less than about 10 W.

38. A method according to any one of claims 30-35, wherein applying the signal comprises applying respective signals at a plurality of sites on the heart.

39. A method according to claim 38, wherein applying the signals comprises applying a first waveform at a first one of the sites and applying a second waveform, which differs from the first waveform, at a second one of the sites.

40. A method according to any one of claims 30-35, wherein applying the signal comprises applying the signal so as to induce depolarization in at least a region of the heart.

41. A method according to claim 40, wherein applying the signal comprises applying the signal so as to induce a depolarization of substantially all excitable contractile tissue of the heart.

42. A method according to claim 40, wherein applying the signal comprises applying the signal so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

43. A method according to any one of claims 30-35, wherein applying the electrical signal comprises modifying a parameter of the signal during the application thereof.

44. A method according to any one of claims 30-35, wherein applying the signal comprises applying to the heart electrical pulses at a first frequency, and wherein terminating the electrical signal comprises reducing the frequency to a second frequency.

45. Apparatus for defibrillating a heart of a person, comprising:

one or more electrodes, adapted to be coupled to the heart; and

a control unit, adapted to drive the electrodes to apply electrical pulses to the heart at a rate greater than about 10 Hz, and to terminate the electrical pulses, so that the heart beats without fibrillation.

46. Apparatus according to claim 45, wherein the control unit is adapted to drive the electrodes to apply the pulses for at least about 100 milliseconds.

47. Apparatus according to claim 45, wherein the control unit is adapted to drive the electrodes to apply to the heart a total amount of electrical energy which is less than about 1 joule.

48. Apparatus according to claim 45, wherein the control unit is adapted to drive at least one of the electrodes to apply a pulse having an amplitude less than about 50 mA.

49. Apparatus according to claim 45, and comprising a sensor, adapted to sense motion of the heart and to convey a sensor signal responsive thereto to the control unit, wherein the control unit is adapted to modify a characteristic of at least some of the pulses applied to the heart responsive to the sensor signal.

50. Apparatus according to claim 45, and comprising a fencing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the fencing electrode to apply a fencing signal to the heart to inhibit propagation of an activation wave therein, while concurrently driving the one or more electrodes to apply the electrical pulses.

51. Apparatus according to claim 45, wherein the control unit is adapted to drive the electrodes to apply the pulses in two or more bursts of pulses.

52. Apparatus according to claim 45, and comprising a pacing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the pacing electrode to pace the heart at approximately 1 Hz, while concurrently driving the one or more electrodes to apply the electrical pulses.

53. Apparatus according to claim 45, wherein the one or more electrodes comprise first and second electrodes, and wherein the control unit is adapted to drive the first electrode to apply a first waveform at a first site of the heart, and is adapted to drive the second electrode to apply a second waveform, which differs from the first waveform, at a second site of the heart.

54. Apparatus according to any one of claims 45-53, wherein the control unit is adapted to drive the electrodes to apply the pulses such that a peak transfer rate of electrical energy to the heart is less than about 100 W.

55. Apparatus according to claim 54, wherein the control unit is adapted to drive the electrodes to apply the pulses such that a peak transfer rate of electrical energy to the heart is less than about 10 W.

56. Apparatus according to any one of claims 45-53, wherein the control unit is adapted to drive the electrodes to apply the pulses so as to induce depolarization in at least a region of the heart.

57. Apparatus according to claim 56, wherein the control unit is adapted to drive the electrodes to apply the pulses so as to induce depolarization of substantially all excitable contractile tissue of the heart.

58. Apparatus according to claim 56, wherein the control unit is adapted to drive the electrodes to apply the pulses so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

59. Apparatus for defibrillating a heart of a person, comprising:

one or more electrodes, adapted to be coupled to the heart; and

a control unit, adapted to drive the electrodes to apply an electrical signal to the heart for at least 100 milliseconds, and to terminate the electrical signal, so that the heart beats without fibrillation.

60. Apparatus according to claim 59, wherein the control unit is adapted to drive the electrodes to apply to the heart a total amount of electrical energy which is less than about 1 joule.

61. Apparatus according to claim 59, wherein the control unit is adapted to drive at least one of the electrodes to apply a signal having an amplitude less than about 50 mA.

62. Apparatus according to claim 59, and comprising a sensor, adapted to sense motion of the heart and to convey a sensor signal responsive thereto to the control unit, wherein the control unit is adapted to modify a characteristic of the electrical signal applied to the heart responsive to the sensor signal.

63. Apparatus according to claim 59, and comprising a fencing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the fencing electrode to apply a fencing signal to the heart to inhibit propagation of an activation wave therein, while concurrently driving the one or more electrodes to apply the electrical signal.

64. Apparatus according to claim 59, wherein the control unit is adapted to drive the electrodes to apply the signal in two or more bursts of signal application.

65. Apparatus according to claim 59, and comprising a pacing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the pacing electrode to pace the heart at approximately 1 Hz, while concurrently driving the one or more electrodes to apply the electrical signal.

66. Apparatus according to claim 59, wherein the one or more electrodes comprise first and second electrodes, and wherein the control unit is adapted to drive the first electrode to apply a first waveform at a first site of the heart, and is adapted to drive the second electrode to apply a second waveform, which differs from the first waveform, at a second site of the heart.

67. Apparatus according to any one of claims 59-66, wherein the control unit is adapted to drive the electrodes to apply the signal such that a peak transfer rate of electrical energy to the heart is less than about 100 W.

68. Apparatus according to claim 67, wherein the control unit is adapted to drive the electrodes to apply the signal such that a peak transfer rate of electrical energy to the heart is less than about 10 W.

69. Apparatus according to any one of claims 59-66, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce depolarization in at least a region of the heart.

70. Apparatus according to claim 69, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce depolarization of substantially all excitable contractile tissue of the heart.

71. Apparatus according to claim 69, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

72. Apparatus for defibrillating a heart of a person, comprising:

one or more electrodes, adapted to be coupled to the heart; and

a control unit, adapted to drive the electrodes to apply an electrical signal to the heart with a total energy of no more than about 1 joule, and to terminate the electrical signal, so that the heart beats without fibrillation.

73. Apparatus according to claim 72, wherein the control unit is adapted to drive at least one of the electrodes to apply a signal having an amplitude less than about 50 mA.

74. Apparatus according to claim 72, and comprising a sensor, adapted to sense motion of the heart and to convey a sensor signal responsive thereto to the control unit, wherein the control unit is adapted to modify a characteristic of the electrical signal applied to the heart responsive to the sensor signal.

75. Apparatus according to claim 72, and comprising a fencing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the fencing electrode to apply a fencing signal to the heart to inhibit propagation of an activation wave therein, while concurrently driving the one or more electrodes to apply the electrical signal.

76. Apparatus according to claim 72, wherein the control unit is adapted to drive the electrodes to apply the signal in two or more bursts of signal application.

77. Apparatus according to claim 72, and comprising a pacing electrode, adapted to be coupled to the heart, wherein the control unit is adapted to drive the pacing electrode to pace the heart at approximately 1 Hz, while concurrently driving the one or more electrodes to apply the electrical signal.

78. Apparatus according to claim 72, wherein the one or more electrodes comprise first and second electrodes, and wherein the control unit is adapted to drive the first electrode to apply a first waveform at a first site of the heart, and is adapted to drive the second electrode to apply a second waveform, which differs from the first waveform, at a second site of the heart.

79. Apparatus according to any one of claims 72-78, wherein the control unit is adapted to drive the electrodes to apply the signal such that a peak transfer rate of electrical energy to the heart is less than about 100 W.

80. Apparatus according to claim 79, wherein the control unit is adapted to drive the electrodes to apply the signal such that a peak transfer rate of electrical energy to the heart is less than about 10 W.

81. Apparatus according to any one of claims 72-78, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce depolarization in at least a region of the heart.

82. Apparatus according to claim 81, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce depolarization of substantially all excitable contractile tissue of the heart.

83. Apparatus according to claim 81, wherein the control unit is adapted to drive the electrodes to apply the signal so as to induce substantially sustained contraction of the region lasting at least about 250 milliseconds.

84. Apparatus according to any one of claims 72-78, wherein the control unit is adapted to modify a parameter of the electrical signal during the application thereof.

85. Apparatus according to claim 84, wherein the control unit is adapted to reduce a frequency of the signal from a first value to a second value during application of the signal to the heart.